

IN THE CLAIMS

1-137. (Cancel)

138. (New) A processing method, comprising:

exposing a surface of a substrate to a plasma;

cleaning said surface after exposure to said plasma;

terminating said surface with a chemical species after said cleaning step; and

bonding said surface to a surface of a second substrate after said terminating step.

139. (New) A method as recited in claim 138, wherein terminating comprises:

immersing said surface in a solution.

140. (New) A method as recited in claim 138, wherein terminating comprises:

immersing said surface in an N-based solution.

141. (New) A method as recited in claim 140, wherein terminating comprises:

immersing said surface in an ammonia-based solution.

142. (New) A method as recited in claim 138, comprising:

performing said exposing, cleaning and terminating steps, in order, on said surface of said second substrate prior to said bonding step.

143. (New) A method as recited in claim 138, comprising:

forming a bonding layer on said first substrate, and

performing said exposing, cleaning and terminating steps on a surface of said bonding layer.

144. (New) A method as recited in claim 143, comprising:

forming a bonding layer on said second substrate, and

performing said exposing, cleaning and terminating steps on a surface of said bonding layer formed on said second substrate.

145. (New) A method as recited in claim 138, wherein said cleaning step comprises removing contaminants from said surface.

146. (New) A method as recited in claim 138, wherein:
said cleaning step comprises a dry process.

147. (New) A method as recited in claim 146, wherein:
said terminating step comprises a dry process.

148. (New) A method as recited in claim 146, wherein:
said terminating step comprises a wet process.

149. (New) A processing method, comprising:
exposing a surface of a substrate to a first dry process to at least etch said surface;
exposing said surface to a second dry process to at least clean said surface;
terminating said surface with a chemical species; and
bonding said surface to a surface of a second substrate after said terminating step.

150. (New) A method as recited in claim 149, comprising:
performing said exposing, cleaning and terminating steps, in order, on said surface of said second substrate prior to said bonding step.

151. (New) A method as recited in claim 149, comprising:
forming a bonding layer on said first substrate, and
performing said exposing, cleaning and terminating steps on a surface of said bonding layer.

152. (New) A method as recited in claim 151, comprising:
forming a bonding layer on said second substrate, and
performing said exposing, cleaning and terminating steps on a surface of said bonding layer formed on said second substrate.

153. (New) A method as recited in claim 149, wherein said cleaning step comprises removing contaminants from said surface.